

With respect to the 100 bed nursing pavilion. If one reads the literature on geriatric nursing and nursing homes (I did my fellowship in wound care at the geriatric teaching hospital at Sepulveda VA Medical Center, where I was also a clinical instructor) the level of drug resistance amongst these systems is astonishingly high. This drug resistance is brought into hospitals from the surrounding nursing homes as the patients deteriorate from a nursing only status to the status of acute care during their remaining critical hours of death and organ failure. Consequently, there will be a constant source of renewing incoming and worsening resistant pathogens.

With respect to quality of wastewater, especially without pretreatment, as the level of antimicrobial resistance increases, which it is at an astonishing rate, more of these organisms will wind up in the wastewater. This will include the antimicrobial and therapeutic materials used to combat these organisms, as well as sanitizers and disinfectants used to combat them. Much of this will wind up in the wastewater.

It is current practice to empirically prescribe antibiotics, rather than first go for a careful lab analysis of the pathogen. With growing resistance, one or more drugs may be employed before one hits on the correct drug for the case. In the interim, these non-functioning drugs are run through the alimentary and renal systems into the toilet. Thus there is augmented selective pressure on gut microbes to select for resistance, augmentation of resistance pressures within sewer works, and since sewer plants find it hard to clear many of these pharmaceuticals, augmentation of selection pressures with niches in the environment. Again, none of these issues are discussed within the DEIR, nor for that matter the implications for impacts to areas covered by various laws and regulations covering water resources, oceans, etc.

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It has been shown that further amplification of these superbugs occurs within wastewater because of selecting antimicrobials, selection pressures of sewer treatment and abundant opportunities for the exchange of genetic information amongst the now crowded and mixed pathogens. As mentioned above, and amply demonstrated within the literature, an astonishingly large portion of almost all antibiotics and therapeutic materials is either excreted in the urine or feces. These excreted residues are essentially unchanged or in a metabolite that still confers biologic competence, i.e., the capacity to effect selective pressures on not only microbes and pathogens, but also other environmental systems. In fact, Nakamura, et al (1990) noted that as these pathogens progressed further through a wastewater treatment works, their level of multi-resistance increased. Other later published works have corroborated this.

This resistance as well as increased virulence is also augmented by other materials that are found to accumulate in wastewater treatment plants. Such materials may include phages, heavy metals, cleaning agents, the use of chlorine cleaning products and triclosan, personal care agents, and the use of chlorine

itself by the treatment plant. The ubiquitous bacteriophages found in treatment works and viruses further add to the exchange of genetic information conferring antibiotic resistance and virulence.

Additionally, amoebae ingest pathogens and shield them from the rigors of treatment. These small organisms, the amoebae, are highly resistant to chlorine, perhaps 100 times or more so than the classic marker bacteria used by treatment works to demonstrate disinfection. Thus current standards fail in such instances to protect the public health. Further, the ubiquitous amoebae, by ingesting bacteria, can resuscitate injured pathogens and then shield them. Thus within amoebae, there can take place not only a shielding of pathogens but also the mixing and thus the opportunity to exchange genetic information.

Chlorine itself selects for resistance. Chlorine also combines with discharged hospital contrast fluids to produce highly persistent materials that fail to be cleared by current sewer works and are thus released into the environment. This, and the growing resistance to chlorine and other disinfectants and sanitizes is worrisome issue, but again is not discussed within the DEIR.

Part of the human immune system is conducted by leukocytes bi ingesting pathogens, then through the internal burst of hypochlorite within the lysosomes which is used to destroy pathogens. As these pathogens obtain increased resistance to chlorine, the question logically follows about an effect that would impinge upon this very basic underpinning of the human immune system. Will the growing chlorine resistance adversely affect the work of leukocytes? This also is not discussed by the DEIR.

There are numerous papers that clearly demonstrate that the classic marker bacteria used to ascertain acceptable clearance often fail to reflect the actual situation. Nonetheless, these are the current standard. The city could easily exceed current standards if it wished. It appears not to have this wish.

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Notes from DEIR.

Numbers cited within the DEIR clearly indicate that the number of patients served will increase (see p. 1-31). Thus, the load of antibiotics and disinfectants as well as flushable medical waste may increase. The long-term medical waste may increase due to the increased number of patients (see p. 1-32), may see an increase in blood samples, cf p. 9-3, where Cottage can send ground up infectious waste to sewer (disposable needles, syringes, etc.) Municipal Code Ch 16.04.111. The interesting thing about the lumen of a needle is that it shelters pathogens. David Lewis looked at a similar issue with dental tools that had been sterilized but continued to carry viable HIV the AIDS virus. Nothing near sterilization occurs within a sewer works. Yet the DEIR, on the other hand, per p. 1-75, notes that because of reduced licensed beds the patient numbers will decrease. Here we are discussing differences between in and out-patients, not

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total patients served, hence effluent production from merely a quantity perspective.

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Notwithstanding this, if one turns to p. 1-63, there is mention of a planned 100 bed nursing pavilion plus added employees.

Per the DEIR discussion @ p. 1-75, claiming no sewer impact because of reduced licensed beds, if they also absorb most of the beds lost from St Francis and GVH, how does this work out? Certainly this needs more discussion within the DEIR.

St. Francis was licensed for 85 beds according to Cottage, but according to the administrator Nun, they had 94 and in their better days 128. The number of licensed beds was presumably 85, so in what status was the remainder, the difference between 128 and 85, i.e, 43 beds? Cottage will reduce the number of its licensed beds from 456 to 337, but indicate in discussion @ p. 3-3, that they, in reality could not effectively use all beds. Thus how valid is the upper figure of 456 if these could not be utilized? Also, what is the real bed count---assuming St Francis was not somehow vastly different from Cottage and was licensed for 85, yet had 128 at its hay-day?

At p. 3-11 is a discussion under the heading Development Plan. Cottage plans now for 310 rooms, of which 283 would be private and the remainder (27) as multi bed semi private. This would presumably equate to the new 337 licensed beds.

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The DEIR states that Cottage is now not able to currently use all beds because of gender and protocol conflicts and inability to meet current state standards and guidelines (thus what is realistic census?). Thus less, in consequence there is a dramatic difference with filled beds compared to licensed capacity. Also, need to check on number of beds that would not be included in the "license", as noted above---the example with St Francis is the licensed beds @ 85 and the census between 94 and 128.

Note at p. 3-11 that bed occupancy is currently 52% of the licensed 456 beds (this ranges from about 48% if one does the math using numbers supplied within the DEIR) and the new licensed beds is to be 337, but filled at 70%. Thus  $456 \times 52\% = 237$  and  $337 \times 70\% = 236$ —there is no change.

p. 3-3. Closing St Francis, according to DEIR, shifted an average daily patient load from 213 at Cottage to 226. Using the lesser number (213), one sees that of licensed capacity, this is 47%. The 226 is 49%. **QUESTION. is the baseline for purposes of the EIR the pre St Francis load?** Using the 213 number, then allowing for  $337 \times .70 = 236$ , and then adding on the projected 100 bed nursing pavilion, as well as the projected 22,000 out patients, should help persuade the argument that there will be **MORE** sewage. Again this argument ignores closure

of GVH. Another issue not discussed is the Cancer center, which is a tenant of Cottage and any expansion of that system as well as the radioactive materials sent to the sewer.

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Additionally @ p. 3-11, the DEIR states that additional space is needed for infectious disease control. Further, on that same page, the DEIR mentions that added space for larger and newer types of medical equipment and **new types of procedures would demand expanded floor space**. In contrast to this statement of expanded procedures, the DEIR at page 3-3 indicates that, in defense of downplaying expansion ***"The scope of services and clinical programs at the proposed new facility are, however, anticipated to remain essentially the same."*** Thus, these two statements seem to be at odds with each other and the reader is left with insufficient information. Nonetheless, it appears that the above would augur for an increase in patient load, again indicating that sewage use would go up and not down.

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A further confounder is found at p. 9-16 discussing Hazards—Long-Term Impacts. In this section, the DEIR states ***"Because the basic function of the hospital would not change, new types of hazardous materials used and hazardous waste created is not anticipated. Since the net number of patients served by the proposed project would increase (fewer inpatients, but more outpatients) the quantities of hazardous materials uses and hazardous waste created may increase. For example, the hospital would potentially increase laboratory services, which utilize solvents."***

Notwithstanding the above quote, the reader is directed to the statements above that new procedures (unspecified) would be anticipated. The DEIR should go into more depth in this area. What new procedures are we discussing, how will the lab be impacted, just what is actually sewered from the lab and in what quantities, how would the "new procedures" noted above fit with the statement that new hazardous materials and wastes are not anticipated—the two statements beg to be explained. This question is further underscored by statements on p. 9-17. ***"The project is expected to increase the amount of medical waste generated due to its ability to handle a larger volume of patients. Since the net number of patients would increase over time, medical waste from routine services such as injections and blood sampling would increase."*** How will such affect the lab and other areas of the hospital for items able to be sewered? Also, since the Cancer Center, a tenant of Cottage which shares with Cottage sewer lateral #2 which is not sampled by the hospital or the City per the permit, and passes radioactive waste to the sewer, how is such evaluated, if at all within the DEIR?

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Further, the paragraph from which the above quote is derived continues---

***"However, this increase in outpatients would occur with or without the project...."***

More needs to be said of the “without the project”. It is our understanding from statements within the DEIR that a “no project” would see the cessation of operations.

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p. 3-5 Project objective #4—expansion to meet future demand in in-patient and out-patient. These figures need to be explicit or at least a reasonably accurate range. This again seems to indicate that the issue of “less” sewage needs to be carefully reviewed.

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At p. 3-8, there is TABLE 3B, **Summary of Project Characteristics**. This table notes, among other items the bed count differences between existing and proposed. The figures neglect to mention the 100-bed nursing pavilion, thus skewing the perception of less rather than more. The discussion of the 100-bed nursing pavilion is carried at p. 3-9. More in the DEIR needs to be said about how the 100-bed nursing pavilion will affect sewage production and also about the patient make-up within that pavilion. This discussion then needs to consider the risks of geriatric patients bringing in resistant pathogens such as MRSA, VRE and other super bugs as well as their treatment protocols, isolation, etc with respect to sewage, hence the capacity of the sewer works to effectively deal with such. This then, would also need to include impacts to environmental niches in both terrestrial and marine systems, as well as the various over arching regs and laws protecting such environmental sinks.

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Also, as seen from the discussion of St Francis above, while there may have been 85 licensed beds, census seems to have been 94 and 128 in the hay-day. Thus, if St Francis may be taken as an example, there were potentially 43 beds above the licensed number. The argument then, is that Cottage may have added beds that are not included within its “licensed” category and thus that are as yet undisclosed. This warrants more analysis.

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p. 3-9 Specific Plan (SP-8)

In the discussion of the SP-8, the DEIR @ p. 3-9, indicates that there may be the need for additional acute care space in the city. It goes on to discuss potential future activity which would be permitted by the proposed SP-8 Zone. This would then include the 100-bed nursing pavilion and such would be developed within an estimated timeframe of 5 additional years. ***“The assumed timeframe is used for purposes of the analysis conducted in this EIR as a means to qualify potential impacts. Such future development would have to comply with all adopted development standards for Specific Plan Land Use Area A, as listed in Table 3.C and would be subject to subsequent review under CEQA.”***

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Table 3C is the **Specific Plan Development Standards**. It does not specifically list the 100-bed nursing pavilion. Thus the casual reader viewing both Tables may miss the fact that there is the potential for the 337 licensed beds plus the

100-bed nursing pavilion--thus a total here of 437. This would be a potential increase by a factor of almost 1.3 fold, not an insignificant increase.

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p. 12-20 Water used for sewage generation long-term sewer impacts from SP-8 estimated to be an average of 8.6 acre feet (AF) and 12.3 AF at full capacity. Doing the math presents a different picture from that noted in the DEIR--238 beds will use 36.53 AF, where as 460 beds will use 70.68 AF, thus 1 AF = 6.5 beds. Therefore 8.6 AF = 56 beds and 12.3 AF = 79 beds, but nursing pavilion is built to house 100 beds, thus 15.4 AF.

p. 12-9 Water going to sewage. Average bed capacity of 238.

$238/36.53 :: (x)/70.68$ , where  $x = 460$ . (licensed bed capacity is 456)

$238/460 = 51\%$

1 AF = 6.5 beds

p. 12-16 cf p. 12-16 where water use calculations give average bed occupancy at between 244 to 248, yet Cottage claims 226 @ p.3-3. Cf also p. 12-20 where the numbers range from 226, 235, up to 248.

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p. 12-20. The 100-bed nursing pavilion will use 12.3 AF of discharged sewage, or 0.123 AF per bed of sewage. Using these figures and assuming a pre 100-bed nursing pavilion, i.e., 337 licensed beds with occupancy estimated to be 70%, i.e., 236, doing the math obtains the following figures. The current average census of 226 patients will use 27.8 AF of sewage, 235 will use 28 AF and 248 will use 30.5 AF and adding on 70% occupancy from the nursing pavilion will add another 11 AF. This figure seems to differ from that noted below.

p. 12-9 Average bed occupancy @ 238 will produce 36.53 AF of sewage, calculated at 6.515 beds/AF. The noted 70.68 AF equates to 460.49 beds.

p. 12-20 100 nursing beds.  $100/6.515 = 15.35$  AF;  $70 \text{ beds}/6.515 = 10.74$  AF  
These figures utilize a formula devised by

If we now go to the EL Estero records on Cottage, per Permit # 99-011N, expiring 6-30-09, we note that Cottage uses an average daily through-put of water in the amount of 153,650 gallons. This, on an annual basis amounts to the following:

$153,650 \times 365 = 56,082,250$  gallons. There are about 325,851 gallons per acre foot (AF). Thus  $56,082,250 / 325,851 = 172.11$  AF.

Of this, sewer plant records show, over the past several years, a consistent 60% going to sewage from the hospital, where as the DEIR would use a figure of 83.86% going to the sewer. These figures supplied by review of the Cottage file within the sewer plant's records are at considerable odds with those demonstrated within the DEIR. The DEIR figures, but not the sewer plant records are presented to the public and decision-makers. In essence, the figures presented within the DEIR down play the issue by about 5 fold.

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p. 15-23 St Francis was an 85 bed "acute" care facility. How many "non-acute" beds did it house. What is the actual displaced census?

## Volume II of the DEIR and back-ties to the Vol I

### ISSUE

p. 29 Initial Study--- sewage disposal---re submitted comments---"...Public Works...has responded that there is no evidence to substantiate these fears."  
P. 9-8 of Vol I discusses Sewage Hazard Impacts (Project Long-Term)

In its discussion the DEIR states that there are ***"No significant hazards impacts from the project sewage collection and treatment....Changes in sewage volumes are addresses in Chapter 12.0, Public Services and Utilities.. As discussed in Chapter 12.0, the amount of sewage generated by the proposed project would decrease from full bed occupancy compared to existing conditions. Therefore, it is anticipated that the amount of 'potentially hazardous' human waste generated would be less than the existing condition "***

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The facts of the case do not bear this statement out.

The DEIR continues. ***An expert in the field, Charles Gerba, Ph.D., professor of Microbiology at the University of Arizona. Dr. Gerba characterizes that sewage is a community issue rather than an issue for an individual contributor. There is no evidence to suggest that sewage discharged by outpatients into the community sewer is any more or less of a risk than inpatient sewage discharges into the hospital sewer"***

### EVIDENCE and ARGUMENTS

**McGowan's comments**---First, I think that it is well established that there is the potential for significant hazards impacts from the project. This applies to the previously discussed quantity/quality equation. Second, Gerba is incorrect in his statement, and third, there IS EVIDENCE that sewage from hospitals is considerably different than community derived sewage. This was discussed above citing the papers of K. Brown and V. Chitnis, and others.



Additionally, Public Works, including Planning have no expertise to even begin to evaluate these concerns. Further, concerns submitted by the public during the scoping period contained sufficient backup data to raise serious questions, questions that prompted the Planning Commission during public comment on October 30, 2003, to direct staff to carefully review these matters—yet all this seem to have been ignored. Finally, those within the EIR staff are also not qualified, if one not only reviews their resumes, but statements within Appendix F.

CONCLUSION—comments were not evaluated by competent people. JPR, merely used selected sources that would corroborate the pre existing conclusions that would obviate any detrimental impacts related to sewage. This is verified in its statement that it did not conduct a peer review and in its closing paragraph (see Vol II, Appendix F @ p. 9) which states as much.

JPR indicated in its analysis of public comment, that it was “important to note that the review ... was not a “peer review” in that technical analysis of submitted comments and accompanying literature was not performed.” JPR’s review was conducted to see if additional issues warranted addressing. Thus, in its review, JPR turned to selected works found within WHO and CDC. It also consulted with Cottage and regulatory agencies. The sewer staff were the regulatory agency and there is no expertise in the study of resistant pathogens nor infectious disease.

In particular JPR noted that specific references were not found within public comment of the hospital being “a foci of resistant pathogens being contributed to the sewer”. JPR also stated that “there was no epidemiological evidence that current hospital waste disposal practices have caused diseases in the community”. The staff of JPR consulted with Dr. Charles Gerba of U. Arizona who noted that “there was nothing unusual about a hospital compared to the community with regard to the discharge of pathogens to the sewer or disposal of unused medicines”.

A careful analysis of this statement by Dr Gerba is worth consideration. If he is implying that, it really does not matter which source is considered, hospital or community, that the current treatment technology of sewer works can not effectively deal with either, he is absolutely correct. If, however, he is saying that there is no difference between what comes out of a hospital and what comes from the community, the current and historical literature base shows a completely different picture. In this second case he would be incorrect. Nonetheless, the stated “quote” from Dr Gerba is sufficiently unclear as to its ultimate meaning to be of little use. This may be attributed to a misunderstanding in communication between JPR and Gerba.

The issue of exfiltration was placed into the category of a theoretical issue and Public Works staff indicated that there was no evidence to support such



conjecture. This is unfortunate, because of the various documents that were to be peer reviewed by the consultants, the Martin Northart Spencer study on the poor condition of the sewer mains was conspicuous by its absence. Additionally, the follow-on study by Santa Barbara ChannelKeeper and Heal the Ocean that corroborated the MNS was also absent. Thus, the claimed lack of evidence is certainly not compelling.

JPR states that individuals and organizations had raised concerns regarding the capacity of EL Estero to adequately treat sewage that may contain multi-resistant pathogens. The City Public Works indicates that there is no evidence to substantiate this. Yet, Gerba's own published writings clearly spell out serious concerns in this area, including comments of the failure of current standards.

Again, there is ample literature to show that sewer works can not adequately clear antibiotics, endocrine disrupters, pharmaceuticals, and pathogens, including multi-resistant pathogens. Unfortunately, staff of Public Works is not qualified to discuss these issues from a scientific perspective, they are simply not trained in these areas.

Let's take these noted statements one at a time.

**1.JPR states that it is "important to note that the review ... was not a "peer review" in that technical analysis of submitted comments and accompanying literature was not performed."**

It is unclear from this if the staff within JPR did or did not review the submitted material. Rather, it seems that the JPR staff merely went to a few sources and not necessarily current literature---literature that was abundantly cited in the submitted public comment. In fact Gerba, himself has written on the dangers to public health from the failure of sewer works and land applied sewer sludge because of the pathogens contained, pathogens that are abundantly missed during sewer treatment.

**2. references were not found within public comment of the hospital being "a foci of resistant pathogens being contributed to the sewer".**

There were several cited papers within submitted material from community comment that, if read, would have discussed this issue. There is no doubt that hospitals are foci for the development and transmission of multi-antimicrobial resistance. However, it may be true that a paper citing Cottage directly, may not have been written. These pathogens are discharged in hospital sewage. This information is abundant. Cottage being a large hospital, thus must somehow prove itself different from other hospitals to fall outside this context.

**3. that "there was no epidemiological evidence that current hospital waste disposal practices have caused diseases in the community".**

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This may be true, but then no one is directly studying this, and there are few data collected. This is a serious area that has fallen between the cracks. Thus the argument that an absence of evidence justifies business as usual, may be akin to saying that that there is no evidence that the canoe is sinking, except on your end.

This type of study was suggested as part of the EIR process. However, using the cautionary model in epidemiology, there are abundant papers discussing the pathogens found in the marine environment and Gerba himself writes papers on this. Further, there are several good studies showing correlation of disease and recreational use of water. Additionally, there are several papers showing that there are increased pathogen loads released to the marine environment by sewage, including papers by Gerba. Thus, a logical mind can easily construct a plausible theory that would counter the argument put forth by the project proponents in the DEIR. Based on precautionary principal, the DEIR fails to consider such and thus misleads decision-makers charged with protecting the community health and welfare, as well as upholding the public trust for compliance with various law and regs related to environmental protection.

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**4. “there was nothing unusual about a hospital compared to the community with regard to the discharge of pathogens to the sewer or disposal of unused medicines”.**

Here, if this is actually Gerba, the statement is incorrect. There are studies in the literature, cited by public comment as well as those written by Vikrant Chitnis and Kate Brown, that clearly show that there is a marked difference between wastewater discharged from hospitals and wastewater derived from communities.

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**5. The issue of exfiltration was placed into the category of a theoretical issue and Public Works staff indicated that there was no evidence to support such conjecture.**

Huntington Beach, as a city, plead guilty to felony charges for covering up—for years--the fact that its sewer mains leaked. There is also an excellent paper coming out of a major city in New Mexico which details how this exfiltration happens, citing other examples in other major cities. This is not obscure information. Santa Barbara, has since at least 1983 when Martin Northart and Spencer (MNS) did the first study of leaking sewer mains, known that its sewer mains leaked. Badly leaking sewer mains may lose as much as 50% of the flow-through before reaching the sewer works. A tight system is estimated to lose about 10%. These figures are verified by actual studies in cities which were experiencing exfiltration problems. Thus, even assuming Santa Barbara has a tight system, the estimate from other studies indicates a loss of around 10%. Keeping in mind that storm drains cross sewer mains and both are in ditches

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filled with gravel, there is a French drain effect. Thus, the potential for cross movement is there. ChannelKeeper (SBCK) and Heal the Ocean (HTO) have conducted an independent expert analysis and come to the conclusion that a problem may exist. The SBCK-HTO study corroborated the findings of MNS. Thus, it is not a theoretical conjecture.

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This area also must look at the rupture of man-hole seals during storms when the sewer mains overflow into storm drains. This is not an irregular occurrence. The system overflows near Marina #3. Thus, effluents derived from the hospital could find themselves belching onto the streets, thence to storm drain, creek, and near-shore environment.

**6. JPR indicated that individuals and organizations have raised concerns regarding the capacity of EL Estero to adequately treat sewage that may contain multi-resistant pathogens. The City Public Works indicates that there is no evidence to substantiate this.**

This is incorrect. Again, there is ample literature to show that sewer works can not adequately clear pathogens, including multi-resistant pathogens, endocrine disrupters, pharmaceuticals, and disinfectants. These items and materials continue through the sewer works and into the environment. Unfortunately, staff of Public Works is not qualified to discuss these issues from a scientific perspective. Again, Gerba's own papers discuss these problems with sewer plants and the faulty standards.

Again, I wish to note the caveat within the JPR submittal upon which much of the DEIR for this area rests. ***"Based on the conclusions provided herein, the project would result in less than significant impacts. However, it is recommended that a third party with advanced expertise in the study of environmental microbiology be retained to conduct a technical analysis of the public comment related to the issues associated with potential drug-resistant discharges on the community's sewer treatment system."***

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While the statement attributed to Gerba is in error on the non-difference between hospital and community discharge of sewage, he has written in his earlier years excellent papers on the dangers of pathogens coming from sewage plants, hence the sequestering and stabilizing effects of sediments, effects on longevity of and continued virulence of pathogens and risks from land applied sewer sludge.

The JPR writer also in using staff at the sewer works as expert in the area of wastewater-pathogen-public health-drug resistance fails to understand their limitations in the critical areas germane to these issues. In a previous meeting with these people, one—a wastewater engineer, cited as expert by JPR, asked during that meeting a telling question relating the survival of pathogens once the material had left the sewer treatment works.

The essence of the question is related to the survival of genetic material. Hence, analyses on the underlying issue of surviving MDRB. The question went something like this— ***"If Staphylococcus aureus were found dead, did that mean that the problem was solved?"*** The corollary— was it dead or merely in the viable but non-culturable (VNC) state, a starvation arrested state, or killed from a starvation but otherwise recoverable state by sudden nutrient excess in the culture? Was it able to produce persister cells that would defy treatment and would it produce biofilms that would render it exempt from the effects of treatment. Staph has this capacity and is also competent. Was it encysted by a protozoan, thus held within a Trojan horse, to later emerge? Did the analysis look for pathogens imbedded within lipid rich organic matter where most of the viable pathogens will be found, or did the analysis merely look at the supernatant liquids? Gerba amply demonstrates in his papers that looking in the supernatant or overlying water misses the majority of pathogens—they are sequestered within the sediment and thus there protected. Additionally, there are issues of the re-uptake of naked DNA, the passage of genetic material through phages, and similar mechanisms. The wastewater engineer had not evidently considered these alternatives. This is not an adverse comment on wastewater engineers, they simply are not trained in these areas, and to ask of them these questions or place upon them responsibilities for which they are not trained is a disservice to these professionals. Nonetheless, the authors of the DEIR failed to grasp these shortcomings in reaching their conclusions.

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Recently, in discussing mobile genetic elements (MGE), Nielsen, et. al, (2000 and see also 1997) demonstrated that DNA was well protected in dead cells and that transforming activity remained. The survival of such material was found to be up to two years. Other papers within the peer reviewed scientific literature note that viability of genetic material can exist for centuries in dry soils. In one case an ancient bacteria was resuscitated. This creature was 25 million years old and is now resting comfortably in its laboratory environment while being carefully studied. Gerba, in one of his papers indicated that viability of viral genetic material continued even though it had been released into the environment.

Additionally, these and other peer review papers demonstrate that growing plants, via their roots, could transfer MGEs to bacteria. The reverse has also been widely demonstrated. Thus, non-pathogens and non-bacteria can serve as reservoirs and lending libraries for maintaining genetic information on virulence as well as increased resistance.

ISSUE

Wastewater—sewage

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Page 9-18 of the DEIR carries a discussion of "Sewage Hazard Impacts" Under that discussion, the DEIR again states that there is no significant impact accruing to sewage. It also refers the reader to Chapter 12.0 for more discussion.

The DEIR here relies on statements presumably made by Chuck Gerba which characterizes sewage as a community problem, not the problem of a single institution. It also states that the city has no evidence for exfiltration further citing a 2003 study by the city. In addition, the DEIR indicates that the area known as Basin # 14 is tight, allowing no more than 3% I&I. Further, there is denial of any issue with capacity of treatment by El Estero (see p. 9-19).

If one runs the numbers as follows, a 3% loss amounts to a lot of fluid. I would invite the reader to get out a calculator.  $172 \text{ AF} \times 325,861 \text{ gallons/AF} = n \text{ gallons}$ ; "n" gallons is not a small number. Keep in mind that each gram of fecal material can carry a bewildering number of bacteria, some carrying resistance and some as serious pathogens. These figures have been worked out below under EVIDENCE.

As noted above, these statements and conclusions warrant further review.

The DEIR uses comments made by Rebecca Bjork on Oct 29, 2003 to corroborate statements on exfiltration as well as controlled discharge from the plant to outfall, including adequate testing (see p. 9-19, bottom).

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## EVIDENCE & ARGUMENTS

It is interesting that by 29 Oct 2003, before close of scoping and comment period and thus evaluation of submitted data by PC and city, that the consultant would rely on this statement.

In its comments on community versus hospital impact, the statements attributed to Gerba have been refuted by studies by Chitnis, Brown, and others.

While the DEIR states that comments by the public included discussion of a "history of failure of sewer mains and man-hole covers...the failure of which has resulted in release of raw sewage..." It goes on to indicate that this happens in many cities and that city staff are not aware of any impact on ground water. This is a curious argument to take for a city charged with protection of public health. Is it implying that if this happens in other cities, one should neither worry nor attempt to correct? What if the city police said murders happen in other cities, thus we should dismiss the issue?

The DEIR continues with its discussion that exfiltration from a sewer main is similar to a septic system, but the primary forces on water encourage continued flow within the pipe. It fails to look at the analogy of French drains, tracking of

released sewage along the ditches, thence to avenues of exit. The discussion within the DEIR is deficient, especially for areas down-gradient from Cottage.

As mentioned during the Dec 2<sup>nd</sup> hearing, I ran bacterial samples at the mouth of the storm drain that exits near the intersection of Carrillo and Islay. The sewer main from Cottage crosses this storm water drain. The bacterial analysis for total coliform was off the chart, and other bacteria were well above standards. Assuming that the city is correct, that loss is 3%, this, when using Cottage's own water consumption figures means that the following may be within reality.

Daily water usage = 153,560 gallons, or 56,082,250 gallons annually. If one uses Cottage's estimate of return sewage, i.e., 83.86%, then this obtains 47,030,574 gallons of sewage discharge. On the other hand, if one uses the sewer plant's data of 60% this obtains 33,649,350 gallons. The 3% figure would then be 1,410,917 gallons lost @ 83% or 1,009,480 gallons lost at 60%. Neither are small numbers considering that large numbers of bacteria may be contained within each milliliter of water (there are 3785.4 milliliters to each gallon). Thus the numbers are quite impressive if one continues the math. This then is not an insignificant issue and the health risks and uncosted damage may be high. But this whole area has been eclipsed by the rush to get the DEIR out with as little controversy and cost as possible. Unfortunately, as the CEO of Cottage noted during the Dec 2<sup>nd</sup> presentation, these costs will be passed onto the community.

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McGowan's comments---The issue of blown manhole covers and belching of sewage into storm drains, thence to creek and beach is not even discussed, except to say that it happens in many cities, thus, perhaps the authors feel that this is an acceptable event—which it is not. It is a reportable event for which there are penalties.

As to exfiltration, we must await the input from ChannelKeeper on this, but it is telling that of the "peer reviewed" documents, the MN&S study is conspicuously by its absence. Also, Heal the Ocean did an independent study and reviewed the TV footage, coming to a different conclusion than the City. These data warrant review. Thus the statement that there is no evidence is open to question.

In a conversation with one scientist who has analyzed the sewer system and taken the MN & S study to more complete analysis, he indicated that the City was caught in bold-faced lies about the integrity of the system. Thus, this fiction may still exist and be part of the DEIR.

The DEIR also states (p. 9-19)that El Estero can adequately treat waste. "Extensive water quality testing (over 4000 tests annually) is conducted before, during, and after treatment to confirm that treated discharge meets all limits and does not affect human health or the marine environment."

McGowan's comment---This argument neglects to discuss the large body of scientific and medical literature, including Gerba's work demonstrating that current standards fail to protect human health, and that sewer works as currently designed are unable to clear many pharmaceuticals and pathogens, thus releasing them to the environment. This type of boiler-plate answer skirts the issues raised by the community comments.

As to sewer sludge and its use. The National Academy of Sciences published a major work raising serious questions about the validity of 40 CFR Part 503 and the EPA's capacity to adequately monitor sludge. Further, as far as can be ascertained, EPA has not reviewed the resistance issue and thus transfer of genetic information from pathogens within sludge to environmental niches. This analysis was a specific admonishment from the NAS in its evaluation. Thus, to say that there is no problem fails to consider current evidence. Gerba has published papers that indicate the potential for severe health risks associated with the application of sewer sludge.

This section thus ends with the DEIR statement—***“For the reasons discussed above, the proposed project is not expected to result in the potential for significant handling storage, and sewage hazards, and no mitigation is required”***

Turning now to p.12-9, Sewer (Existing Conditions)

***“The city's Public Works Department, Water Resources Division estimates sewage generation for non-residential projects to be 83.86 percent of water demand.... Utilizing the water consumption methods and the results of the Penfield & Smith Water Use Analysis, the existing annual sewage effluent output is 36.53 AFY during average bed occupancy (238) and 70.68 AFY during 100% bed occupancy based on 83.86% of water usage”***

McGowan's comments---First, it is interesting that Public Works assumes a usage level of 83.86% when its own records at the sewer plant reflect analyses based on 60%. Further, the DEIR stated that average bed count was 213 prior to closure of St Francis but climbed to 226 based on incoming St Francis patients. Thus, while based on an assumed occupancy of 52%, the figure 238 is open to some question. The figure also used, i.e, 226 is 49% occupancy. These figures should represent the long-term baseline for sewer effluent discharges, not the unobtainable 100% or 456 licensed beds.

Using figures from Cottage records at El Estero indicates that the treatment works uses 60% of metered water use to estimate sewer flow. This difference between 83 and 60% is not small and thus warrants explanation. Further, using what records exist on Cottage at El Estero, there is indication that average historic daily water use is around 117620 gallons per day and this translates into about 130 AFY. The current estimated average daily use, as estimated by

CC-59

CC-60



Cottage per its sewer permit is 153,560. This translated into about 172 AFY, and thus would produce about 142 AFY of sewage effluent, using the DEIR method for calculations. Using the figures within the DEIR, at maximum bed occupancy, the hospital would produce about 71 AFY of sewage, assuming the 83% figure. Thus its overall water use, according to the DEIR, would appear to be 71/83 or about 85 AFY. There seems to be a big difference between computed data based on which set of figures are used, both sets need to be reviewed. If one uses the 60% as found in the Cottage records held by El Estero, the differences are even greater amounting to almost a two-fold difference.

CC-60

The question arises, why these big differences? What might be the advantage of one set, the 83.86% compared to the 60%. It appears that this might be related to the dilution of certain toxins. A greater theoretical dilution using the higher figure may offer some advantages. Thus there may be a tendency for this method to shadow the release of toxicants to the sewer system based on % of constituencies. More needs to be said of this variation in numbers within the DEIR.

## OFF-SITE IMPACTS

The material supplied within this heading is merely provided as an indicator of what may be found within the literature base. The interested reader will note that several of these papers date back considerably. Additionally, hard copies of several papers are found within the body of this submittal. Of these, approximately 2 dozen were penned by Chuck Gerba and his colleagues. Notes from these papers will be found in an addition section of this submittal. In many of these papers, Gerba cautions that current standards have failed to protect the public, that pathogens are carried through sewer works into the environment, that survival of viable pathogens can be extensive in both temporal and spatial aspects, and that there is movement of viable pathogens within transported sediments. Other papers cited and included as hard copy demonstrate that hospitals are foci for development and disbursement of resistance, such resistance is augmented as it passes through sewer works, thence into the environment. Thus this information is neither new nor obscure, yet seems to have been ignored during the construction of the DEIR. This is by no means an exhaustive presentation.

CC-61

As mentioned elsewhere, I had sampled the storm drain at Islay and Castillo where I found high counts of indicator organisms, including enterococci. This is down-gradient from Cottage.

Here is an example of a double bind. Pathogens picked up in the community may have been feral from hospital effluent or acquired within the hospital. As provided within previous submittals, work by Christopher Welch and noted in his text—**Antibiotics: Actions, Origins, Resistance**, the morbidity and mortality from cases of VRE are quite high, in excess of 50% death on average. The pathogen found in post surgical cases is also higher than would be desired. Thus, community spread of this organism is no small matter. One could be hit from two direction, one from community acquired, the other if surgery might be needed. Thus the double bind.

From a clinical and pathophysiological perspective, it has been demonstrated that enterococcus is important. Approximately 20% of bacterial endocarditis is attributed to this organism. It is, however, not necessarily seen until it reaches an acute state, often when there has been valvular damage in the heart. This may necessitate valve replacement surgery—assuming one is actually a surgical candidate and does not succumb to a post surgical infection. Some people can not tolerate surgery and thus must attempt to live with the defect.

The organism may lie clinically silent producing a smoldering subclinical level of disease. Thus, the 20% figure for bacterial endocarditis may actually be an understatement. Those most affected are the immunocompromised, elderly, and those with barrier disruptions to the skin or mucosal membranes. In the last case it may be merely from beach sand scratching the skin at the waist line of bathing suits or under wet suites, or swallowing contaminated water. (((see also Gerba CP Sensitive populations: who is at the greatest risk. Int J Food Microbio. 1996 Jun;30(1-2):113-23.))

## CC. RESPONSES TO COMMENTS FROM DR. MCGOWAN

CC-0      **Overview of Submittal.** Please refer to individual responses following that respond to issues summarized here and raised in previous comments submitted by the commentator. Responses to technical matters are from microbiology expert Dr. Charles Gerba, JPR Technical Services, and the City of Santa Barbara Public Works Department.

CC-1      **EIR Inadequacy.** The commentator expresses the opinion that the EIR is inadequate and should be recirculated. The City has reviewed and responded to all comments on the EIR and has concluded that recirculation of the EIR is not warranted under the provisions of CEQA.

**Use of Prior Studies.** The comment raises concern about use of the Initial Study and Request for Proposals (RFP) in the EIR preparation. The RFP requests that consultants use existing available information and studies as appropriate in preparing EIR impact analysis in order to avoid unnecessary duplication of effort, time and cost. The EIR analysis is not limited to the prior studies, but is based on additional evaluation done for the EIR.

**Initial Study Impact Assessment.** The commentator disputes the Initial Study conclusions of project impact significance regarding pathogen hazards associated with antibiotic-resistance, hospital sewage, City sewage system, and pharmaceuticals. The Initial Study is the starting point of the environmental review process. CEQA provides that EIRs focus on impacts identified as potentially significant in the Initial Study and scoping process. Both the Initial Study and scoping process identified the issue of hazardous materials to be forwarded for further study in the EIR scope of analysis. The issues were further studied in the EIR, and impact significance conclusions of the EIR are based on expert analysis.

**RFP and Consultant Contract.** The comments indicate disagreement with the City's process for retaining the EIR consultant and the EIR scope of work. The timing for release of the consultant Request for Proposal is necessary to comply with the CEQA Guidelines timeline for agency contracting with an EIR consultant and also allows for interested consultants to monitor the public scoping hearing as input to their understanding of the issues. The consultant proposals and contract execution occurred following the end of the public comment period, and all scoping comments were considered in establishing the EIR scope of analysis. The RFP requests consultants to utilize prior studies to the extent feasible, but the consultant scope of work requires further analysis as part of the EIR preparation.

**Sewage Treatment Effectiveness; Leaking Sewer Mains.** The commentator expresses the opinion that the EIR analysis is inadequate with regard to hazards from hospital sewage. Please refer to Topical Response 5.

- CC-2      **Sewage Volumes.** The commentator disputes EIR estimates of sewage volumes. As discussed in EIR Section 12.6.3, “The sewage generation estimates, based on the 83.86 percent of water demand and the water demand estimates for SP-8 from Penfield & Smith, are 8.6 AFY for average occupancy and 12.3 AFY for full occupancy.” The EIR addresses the fact that an increase in sewage generation will occur as a result of the 100-bed nursing pavilion under a scenario of full build out of the Specific Plan in the future. The EIR analysis concludes that the 100-bed nursing pavilion would not significantly impact sewer capacity. Also, please refer to Response to Comment D-1 for further explanation of the methods used for determining water consumption and sewage generation.
- CC-3      **Effluent Quality and Antibiotic-Resistance.** The commentator expresses concern about the quality of SBCH’s effluent and antibiotic-resistance in the community. Please see Response to Comment D-2.
- CC-4      **Sewage Volumes.** Although the EIR did not utilize calculations from the Cottage Hospital sewer permit, the water usage estimates by Penfield & Smith were obtained from the City of Santa Barbara Water Consumption Sheets (based on metered sales) for the two-block area bounded by Bath Street, Junipero Street, Oak Park Lane, and Pueblo Street for the 12-month period of June 2002 through May 2003. The difference between the existing sewer permit figure and the Penfield & Smith estimates of sewage generation from the proposed hospital is due to the fact that the existing sewer permit does not reflect the proposed project condition. The utilization of the City of Santa Barbara Water Consumption Sheets provides an illustration of actual water generation of the hospital within a recent 12-month period that provides the basis for existing and proposed water usage and the corresponding existing and proposed sewage generation.
- CC-5      **Consultant Expertise.** Please refer to Response to Comment B-3.
- CC-6      **Sewer Pipes.** The 1983 inflow and exfiltration study measured the potential for inflow and infiltration to the City’s sewer. No extrapolation can be made from this study as to the amount of exfiltration that may occur. The 1983 study was used to prioritize rehabilitation and replacement work. Significant rehabilitation and replacement projects have been completed since the study was completed, rendering it out of date. Inundation of the collection system during periods of extremely heavy rains is a problem that requires a combined approach of continued public sector rehabilitation, as well as private sector maintenance of sewer laterals and elimination of illegal connections. The nature of hospital waste is similar to that of waste from homes and other care facilities; therefore, the suggested alternative treatment of waste from the hospital will not eliminate or substantially reduce risks associated with collection system spills. The U.S. EPA and the State Water Resources Control Board are charged with setting standards for water quality. The City’s wastewater treatment plant treats wastes to comply with the standards for pathogens set by these agencies, and City studies of sewer pipes in the area have identified no evidence of off-site impacts caused by discharges of sewage from Cottage Hospital. The City has a proactive program for rehabilitation and replacement of sewer

pipes. A further study of this issue as part of CEQA environmental review of the project is not warranted.

- CC-7      **Consultant Expertise.** The commentator asserts that the conclusions contained in Appendix F, Volume II of the EIR, are invalid because the consultant who derived them is unqualified. JPR Technical Services (JPR) reviewed the public comments and prepared the discussion contained in Appendix J of the EIR relative to the proposed project's potential for causing significant impacts from pathogenetic waste into the City's storm drain system in consultation with Dr. Gerba. JPR and Dr. Gerba are considered by the City to be competent experts to evaluate comments and analyze potential significant impacts related to hazardous waste generation from the proposed project under CEQA. In the City's judgment as Lead Agency under CEQA, additional technical evaluation is not necessary in order to make a finding in the EIR that hazardous materials impacts of the proposed hospital reconstruction project would be less than significant because sufficient information was presented in the EIR and its technical appendices regarding compliance with extensive regulatory procedures by SBCH for proper handling and disposal of waste, the existing conditions of the City's sewer system, and the volume and quality of the hospital project's waste generation. The conclusions contained in Appendix F, Volume II of the EIR, are a sound foundation for the finding that project impacts associated with pathogenetic waste would be less than significant.
- CC-8      **Resistant Pathogens in Hospital Sewage.** The commentator disputes the EIR's conclusion that the community, rather than a single source such as Cottage Hospital, is the major source of pathogens in wastewater. To substantiate his claim, the commentator provides several papers discussing the greater percentage of antibiotic-resistant bacteria in hospital sewage than that of the community (Grabow and Prozesky 1978; Chitnis, V. et al. 2000; Iversen et al 2004). However, most of these articles come from countries outside the United States where sewage is discharged without disinfection or not treated at all. While the percentage of antibiotic bacteria may be greater in the sewage from hospitals in these studies, the total number of antibiotic bacteria contributed by the community is much greater than the hospital. These papers only looked at the percentage of antibiotic bacteria, not the total numbers. This is especially seen in the Chitnis et al (2000) article of hospitals in Indore, India. While the hospitals had a higher percentage of antibiotic-resistant bacteria, the concentration of bacteria in their sewage was a hundredfold less than that of the city. In addition, the total population of the hospitals studied was 1,905, while the city of Indore population is 1.7 million, a thousand times more than the number of persons in the hospital. Thus, while the percentage of antibiotic bacteria may be greater, the numbers of antibiotic-resistant bacteria released by the hospitals are fewer than that of the community. As an example, the per person water use is 111 gallons per day in the City of Santa Barbara ([www.sbwater.org](http://www.sbwater.org)). With a population of 92,000 people, the City uses about 10,212,000 gallons per day vs. the hospital's 26,418 gallons per day (assuming 226 persons using the hospital beds). Thus, the contribution of the hospital to the number of antibiotic bacteria in the sewers would be less than that of the City based on the data contained in the articles of Chitnis et al (2000) and Grabow and Prozesky (1978) on the percentage of antibiotic-resistant bacteria in hospitals vs. the community's sewage.

- CC-9      **Hospital Regulatory Compliance.** Numerous federal and State agencies are charged with establishing and implementing environmental safety standards and regulatory procedures for effluent and hazardous materials handling, with standards developed based on substantial evidence. Compliance by the hospital and City sewage treatment plant with established standards and regulations is clearly pertinent to the evaluation of project effects.
- CC-10     **Sewage Volumes.** Please refer to Responses to Comments D-1, CC-2, and CC-4.
- CC-11     **Sewer Pipes/Pretreatment.** Please refer to Response to Comment CC-6. Unlike industrial plants, regulations do not require hospital pretreatment of sewage because there is no basis to do so with respect to the quality of effluent. The City sewer treatment plant treats all sewage for pathogens in accordance with regulatory requirements.
- CC-12     **No Pretreatment at Other Hospitals.** The commentator's agreement regarding pretreatment is noted.
- CC-13     **City Sewage Treatment.** The City's wastewater treatment plant meets the pathogen standards set to protect human health and the environment.
- CC-14     **City Sewage Treatment.** The City's wastewater treatment plant meets the standards set for pathogens. Wastewater treatment is a matter of balancing risks. Increased treatment carries with it the environmental impacts of additional chemical and energy usage. If there is no defined benefit from the increased treatment, such environmental impacts represent a net negative impact to the environment.
- CC-15     **Sewage Sludge and Land Application.** The commentator notes that his review of peer reviewed literature differs with the conclusions in the Draft EIR regarding composted sewer sludge and land applications. The comment is noted. The City stands by its conclusions that the final composted biosolid material originating from El Estero's treatment process contains trace level of pollutants at or below regulatory thresholds and below levels in commercially available fertilizer and are safe for land application (DEIR, Section 9.6.1, Hazards - Project Long-Term Impacts).
- CC-16     **Drug Resistance.** The commentator, dissatisfied with how the DEIR addresses the issue, expresses concern about the hospital as a foci of multiple drug resistance. Response to Comment D-2 addresses this issue.
- CC-17     **Pathogens, Sewage Treatment, Need for Additional Study.** The commentator repeats his comments that hospital effluent contains resistant pathogens not adequately treated, which result in impacts to the environment and public health, and that additional analysis is required under CEQA. The comments are noted and forwarded for decision-maker consideration. Please refer to prior Responses to Comment for this letter.
- CC-18     **Initial Study, Impact Significance.** The State CEQA Guidelines establish environmental review procedures followed by the Lead Agency (City), including preparation of an Initial Study to assist in identifying the EIR scope of work, EIR public scoping process,

and EIR preparation. CEQA provides that EIRs focus on impacts identified as potentially significant in the Initial Study and scoping process. The City CEQA Guidelines provide for the EIR scope of work to be determined by the Community Development Department with input from Responsible Agencies, the public, and the Planning Commission. Both the Initial Study and scoping process identified the issue of hazardous materials as a topic for further study in the EIR. The issues were further studied in the EIR, and impact significance conclusions based on the analysis were presented for full disclosure.

- CC-19     **Consultant Request for Proposals.** The State CEQA Guidelines establish timelines for the Lead Agency contracting with a consultant to prepare an EIR. Release of the consultant Request for Proposals during the Notice of Preparation and scoping process allows interested consultants to monitor the public scoping hearing as input to their understanding of the issues. Proposals were not submitted, and the contract was not executed, until after the end of the public comment period. Contract specifications provide that existing studies be utilized to the extent feasible for all impact areas, but the consultant scope of work requires further analysis. All of the issues evaluated in the EIR were presumed to be potentially significant at the start of EIR preparation. EIR impact conclusions of less than significant, less than significant with mitigation, or significant and unavoidable are based on the analysis presented in the EIR.
- CC-20     **Consideration of Public Scoping Comments in EIR Preparation.** The commentator states that the consultant (JPR) was not qualified to conduct a peer review of public comments pertaining to potential drug-resistant discharges to the City's sewer system from health care environments. Therefore, public comment pertaining to this issue was, in essence, ignored in preparing the DEIR. The commentator questions the legal basis for this. Please refer to Responses to Comments CC-7 and B-3. The commentator also questions how current analyses of public comment by expert review will be handled. Please refer to Response to Comment CC-5.
- CC-21     **Alternative 4B, Goleta Valley Hospital, Sewage Impacts.** The commentator asserts that further analysis of sewage-related impacts is warranted for this alternative. Per CEQA, EIR analysis of alternatives is less detailed than for the proposed project, with the purpose of identifying whether there are alternatives to the project that would reduce significant effects of the project. If the project was built at the Goleta site rather than the proposed site, the specifics of project design and jurisdiction would vary. The EIR analysis is that impacts pertaining to sewage generation and sewage treatment would be similar to the project and less than significant regarding water resources, fresh and marine receiving waters, public health, and sewage treatment. The City finds the analysis to be adequate under CEQA for the purposes of the current project evaluation. If City decision-makers recommend that this project alternative to go forward, a separate application to another jurisdiction would be required, and further CEQA environmental review would be provided.
- CC-22     **Carpeting as a Foci for Pathogens.** Please refer to Response to Comment U-1.
- CC-23     **Terrorism.** Please refer to the EIR Public Facilities discussion of public security and Topical Response 5. The hospital has public security provisions and protocols in place,



and the hospital reconstruction project would include upgrades of public security facilities.

- CC-24     **Sewage Impacts.** The comment questions the legality of using a reduction in the number of licensed beds in the hospital renovation as a basis for determining that the impact from sewage will be less than significant. Please refer to Response to Comment D-1.
- CC-25     **Licensed Beds and Patient Census.** The commentator is requesting an explanation for how the number of licensed beds and occupied beds for the reconstructed Cottage Hospital as compared to the existing Cottage Hospital were derived, as these numbers pertain to projected sewage impacts. Refer to Responses to Comments CC-2, CC-4, and D-1.
- CC-26     **Sewage/Pathogen Impacts.** The commentator disagrees with the conclusion in the EIR that the discharge of pathogens into the sewer from the hospital is no more of an issue/impact than is the discharge of pathogens into the sewer from that of the entire community. In fact, the EIR presents information to support the fact that hospital discharges are probably less of an issue than are discharges from other community sources and the community at large (Appendix F, page 2). See Response to Comment D-2 for a thorough explanation of the conclusion in the EIR that the SBCH project would have a less than significant impact on sewage discharges. The EIR explanation is provided in Appendix F and the Hazards Chapter. The City maintains that the EIR analysis on sewer issues as they pertain to the SBCH project is legally sufficient. CEQA recognizes that disagreement among experts occurs (CEQA Guidelines 151151). The EIR is not required to resolve such disagreements. The commentator's opinions are part of the record, and as such receive full disclosure.
- CC-27     **Construction Sewage Impacts.** The City has worked with Marborg and other portable toilet companies to identify acceptable chemicals and volumes of discharge to the El Estero Treatment Plant. No significant impacts are identified.
- CC-28     **Sewage Impacts.** The commentator repeats comments regarding the EIR analysis of the Goleta Valley Hospital Alternative, long-term sewage impacts, and construction-related impacts. Please refer to Responses to Comment CC-21, D-1, and CC-27, respectively.
- CC-29     **Sewage Volumes: Goleta Valley Hospital.** The commentator disputes the EIR analysis of sewage volume, cites the State deadlines for retrofitting or rebuilding hospitals, and suggests a cumulative sewage impact if Goleta Valley Hospital closed. Please refer to Response to Comments CC-21 and AA-23.
- CC-30     **Trauma Level: Goleta Valley Hospital.** The commentator suggests that Cottage Hospital could close the trauma center at Goleta Valley after the Santa Barbara facility opens. Per CEQA Guidelines, an EIR is not required to evaluate speculative assumptions. The comment is forwarded for decision-maker consideration.

- CC-31 **Sewage Volumes: Goleta Valley Closure.** Please refer to Response to Comment AA-23. Goleta Valley Hospital is proceeding with plans for seismic rebuild and has no plans to close.
- CC-32 **Goleta Valley Closure; EIR Timeframe.** The commentator's opinions regarding the potential for closure of Goleta Valley Hospital and increased cumulative sewage impacts are noted.
- CC-33 **Goleta Valley Hospital: Sewage Hazards.** The commentator's opinions regarding the potential for the Goleta Valley Hospital Expansion alternative to result in impacts associated with sewage are noted. This alternative project could be served by the Goleta Sanitary District. The sewage treatment plant is subject to regulations for sewage treatment and water quality. The EIR analysis concludes that this alternative would not be expected to result in significant impacts associated with sewage disposal.
- CC-34 **Goleta Valley Hospital: Sewage, Hydrology, Water Quality Hazards.** The commentator's opinions are noted. Please refer to Responses to Comments CC-21 and CC-34.
- CC-35 **Specific Plan Future Phase, Sewage Volumes.** The EIR analysis identifies that full build out of the Specific Plan with an additional 100-bed nursing unit would result in increased sewage flows over existing conditions and the current project. The City sewage treatment plant is identified to have sufficient treatment capacity to serve this project. Impacts associated with sewage treatment are identified as less than significant. The commentator's opinions are noted.
- CC-36 **Sewer Effluent Quality.** The commentator first raises concerns that no conclusive studies were conducted, showing that the issue of sewage is less than significant. The City contracted with LSA Associates, Inc., and JPR Technical Services (see Appendix F of the EIR) to prepare the EIR analysis of hazards issues. The City also consulted with Dr. Charles Gerba, an expert in the field of Microbiology, regarding the potential risk to the environment and public health from sewage generated and discharged by SBCH (page 9-18 of the EIR).

The commentator also raises the issue of sewer effluent quality, citing the paper by Vikrant Chitnis, et al, to support his arguments. On the subject of antibiotic-resistant bacteria from hospitals as compared to the community, Dr. Charles Gerba responds as follows: Most of these articles come from countries outside the United States, where sewage is discharged without disinfection or not treated at all. While the percentage of antibiotic bacteria may be greater in the sewage from hospitals in these studies, the total number of antibiotic bacteria contributed by the community is much greater than the hospital. These papers only looked at the percentage of antibiotic bacteria, not the total numbers. This is especially seen in the Chitnis et al (2000) article of hospitals in Indore, India. While the hospitals had a higher percentage of antibiotic-resistant bacteria, the concentration of bacteria in their sewage was a hundredfold less than that of the city. In addition, the total population of the hospitals studied was 1,905, while the city of Indore population is 1.7 million, a thousand times more than the number of persons in the

hospital. Thus, while the percentage of antibiotic bacteria may be greater, the numbers of antibiotic-resistant bacteria released by the hospitals is less than that of the community. As an example, the per person water use is 111 gallons per day in the City of Santa Barbara ([www.sbwater.org](http://www.sbwater.org)). With a population of 92,000 people, the City uses about 10,212,000 gallons per day vs. the hospital's 26,418 gallons per day (assuming 226 persons using the hospital beds). Thus, the contribution of the hospital to the number of antibiotic bacteria in the sewers would be less than that of the City based on the data contained in the articles of Chitnis et al (2000) and Grabow and Prozesky (1978) on the percentage of antibiotic-resistant bacteria in hospitals vs. the community's sewage. The City stands by its conclusions in the EIR that impacts to the environment and public health associated with sewage effluent from the SBCH reconstruction project would be less than significant.

CC-37 **EIR Consultant Qualifications and EIR Conclusions.** The commentator states the opinion that the peer review conducted by consultants JPR and Dr. Gerba was inadequate and incomplete and therefore the conclusions that sewage impacts will be less than significant are wrong. Please refer to Responses to Comments B-3 and CC-7.

CC-38 **Sewage Treatment Standards and EIR Analysis.** The commentator expresses concern that the City is ignoring information demonstrating that current sewage treatment standards are inadequate for protecting public health. The City has not ignored information pertaining to sewage treatment and public health. The City contracted with LSA and JPR Technical Services (see Appendix F of the EIR) to prepare the EIR analysis of sewage hazards. JPR Technical Services conducted a thorough review of public comments, reviewed on-line sources of information published by the World Health Organization and the Centers for Disease Control, and conducted interviews with hospital and local regulatory agency personnel. The City also consulted with Dr. Charles Gerba, an expert in the field of Microbiology, regarding the potential risk to the environment and public health from sewage generated and discharged by SBCH (page 9-18 of the DEIR). While the City's consultations, literature reviews, and EIR analysis may have led to different conclusions than the commentator's, it did not ignore the commentator's or any public information.

**Pathogens within Sewage.** The commentator raises the concern that interspecific transfer of genes has and can occur between previously separated pathogens once they are within the common "soup of a sewer treatment works." Conventional sewage treatment removes most of the pathogens after disinfection. However, some viruses and protozoan parasites will be present in the treated sewage. These pathogens would be present even if the sewage from the hospital was treated separately. This is because asymptomatic and nonhospitalized persons are sources of these pathogens, and thus a greater number will always be present in the community's sewage than that of the hospital.

**Antibiotic-Resistant Bacteria.** The commentator also raises concerns about the antibiotic-resistant bacteria in hospital sewage discharge spreading from the sewage treatment facility into the community and the environment. This concern arises from the increase in the number of antibiotic-resistant bacteria that have developed from the

widespread use of antibiotics (Hamilton-Miller 2004). When bacteria develop resistance to an antibiotic, they prevent the antibiotic from being used successfully to treat patients who may be infected. This increase in resistance has largely been attributed to the overuse (overprescription) of antibiotics to treat common infections and its use in animal feeds. Transmission of such bacteria and resulting disease caused by the organism via sewage discharges or water has never been documented. It is important to point out that antibiotic-resistant bacteria have always been present, and they can be isolated from almost any environment. This is because antibiotics originate from certain microorganisms that grow in the soil and other natural environments, and they have been releasing antibiotics in the environment since microorganisms first grew on the planet. Certain other microorganisms developed resistance to survive the release of these antibiotics into the environment. The presence of antibiotic-resistant bacteria in the discharges from the hospital does not present a risk greater than that present in the sewage from the rest of the community for a number of reasons.

The contribution of antibiotic-resistant bacteria from hospitals is insignificant compared to the community as a whole. Several articles published in science journals were provided on the greater percentage of antibiotic-resistant bacteria in hospital sewage than that of the community (Grabow and Prozesky 1978; Chitnis, V. et al. 2000; Iversen et al 2004). Most of these articles come from countries outside the United States, where sewage is discharged without disinfection or not treated at all. While the percentage of antibiotic bacteria may be greater in the sewage from hospitals in these studies, the total number of antibiotic bacteria contributed by the community is much greater than the hospital. These papers only looked at the percentage of antibiotic bacteria, not the total numbers. This is especially seen in the Chitnis et al (2000) article of hospitals in Indore, India. While the hospitals had a higher percentage of antibiotic-resistant bacteria, the concentration of bacteria in their sewage was a hundredfold less than that of the city. In addition, the total population of the hospitals studied was 1,905, while the city of Indore population is 1.7 million, a thousand times more than the number of persons in the hospital. Thus, while the percentage of antibiotic bacteria may be greater, the numbers of antibiotic-resistant bacteria released by the hospitals is less than that of the community. As an example, the per person water use is 111 gallons per day in the City of Santa Barbara ([www.sbwater.org](http://www.sbwater.org)). With a population of 92,000 people, the City uses about 10,212,000 gallons per day vs. the hospital's 26,418 gallons per day (assuming 226 persons using the hospital beds). Thus, the contribution of the hospital to the number of antibiotic bacteria in the sewers would be less than that of the City based on the data contained in the articles of Chitnis et al 2000 and Grabow and Prozesky 1978 on the percentage of antibiotic-resistant bacteria in hospitals vs. the community's sewage.

Also, the presence of antibiotic-resistant bacteria in sewage discharges has never been demonstrated to result in the transmission of illness to humans. The presence of antibiotic-resistant bacteria in sewage and sewage discharges has been known for many decades (Goyal et al 1979), yet a risk to human health has never been demonstrated. This is likely because most of the pathogens are removed by the sewage treatment process and disinfection, and the few that remain do not present a risk of transmission. Water is not the natural environment of most enteric, skin, and respiratory bacterial pathogens, and their survival time is limited. Sewer workers are exposed to these bacteria every day, and

no significant risk of infection among them compared to other non-sewer workers has ever been demonstrated (Clark et al 1981). An article by Iversen et al 2004 was provided in the public comment documents whose title, "Evidence for the Transmission Between Humans and the Environment of a Nosocomial Strain of *Enterococcus faecium*," suggests that transmission of antibiotic bactericide by water has been demonstrated. However, this was not demonstrated. The authors only suggested that this might occur because they found the same antibiotic-resistant bacteria in hospital sewage, community sewage, and surface waters. No evidence was provided that a person or persons actually became ill by this route of transmission. It should also be pointed out that in the country in which the study was conducted, sewage discharges are not disinfected. Refer also to Response to Comment D-2.

**CC-39 Increased Virulence of Pathogens.** The commentator contends that hospital effluent increases the resistance and virulence of pathogens at the sewage treatment plant. The commentator states that these resistant pathogens are then released into the environment. There is no evidence to support the claim that pathogens become more resistant and more virulent during wastewater processing. Most of the pathogens are removed by the sewage treatment process and disinfection, and the few that remain do not present a risk of transmission. Water is not the natural environment of most enteric, skin, and respiratory bacterial pathogens, and their survival time is limited. Sewer workers are exposed to these bacteria every day, and no significant risk of infection among them compared to other non-sewer workers has ever been demonstrated (Clark et al 1981).

**Antibiotic-Resistant Bacteria.** The increase in bacteria's resistance to antibiotics has largely been attributed to the overuse (over prescription) of antibiotics to treat common infections and its use in animal feeds. Transmission of such bacteria and resulting disease caused by the organism via sewage discharges or water has never been documented. It is important to point out that antibiotic-resistant bacteria have always been present and they can be isolated from almost any environment. This is because the antibiotics we use originated from certain microorganisms that grow in the soil and other natural environments, and they have been releasing antibiotics in the environment since microorganisms first grew on the planet. Certain other microorganisms developed resistance to survive the release of these antibiotics into the environment. The presence of antibiotic-resistant bacteria in the discharges from the hospital do not present a risk greater than that present in the sewage from the rest of the community. The interspecific transfer of genes cited is possible and occurs in any sewage treatment plant anywhere in the world. However, this transfer in sewage has not been shown to result in any health risk.

**CC-40 Sewage Sludge.** The commentator is concerned about the movement of pathogens off-site through land application of sewer sludge. This issue is addressed on Page 9-19 of the EIR. Biosolids produced by the El Estero treatment plant, the treatment plant that processes SBCH's waste, are Class A and subject to stringent requirements stipulated in the U.S. Environmental Protection Agency's biosolids rule (40 CFR Part 503). Class A biosolids must undergo treatment to reduce the concentrations of pathogens such that no additional restrictions or special handling precautions are required. The final composted

biosolid material originating from El Estero contains trace levels of pollutants at or below regulatory thresholds and below levels in commercially available fertilizer.

CC-41 **Sewage Volume Methodology.** The commentator questions the use of licensed beds as a basis for issues pertaining to sewage and wastewater and suggests a different methodology. Please refer to Response to Comment D-1.

CC-42 **Specific Plan Build Out, Antibiotic-Resistance.** The commentator raises concerns about the high level of resistant pathogens that will accrue from the future nursing pavilion. Please refer to Response to Comment CC-39.

**Pathogens.** With respect to the concern about the amplification of pathogens occurring in the hospital's wastewater, please refer to Responses to Comments CC-38 and CC-39. The use of chlorine has not been shown to result in an increasing resistance to pathogens despite its use for more than 100 years to treat drinking water and sewage discharges (Rusin and Gerba 2001).

CC-43 **Patient Load and Sewage Hazards.** The commentator notes that the Draft EIR clearly indicates that the total (in-patient and out-patient) patients served by SBCH will increase. Therefore, in this instance, the discussion of effluent is an issue of quantity. The commentator's point is correct. Although fewer in-patients will be served by the proposed project, the number of out-patients is projected to increase (see page 3-3 of the EIR). Therefore, the net number of patients served by the proposed hospital will increase. The City does address the issue of hospital effluent from a quantity as well as a quality perspective. See the discussion in Section 9.6.1 starting on Page 9-16. Please refer to Response to Comment D-1 regarding methodology used for estimating future project sewage volumes.

CC-44 **Bed Counts, Sewage Impacts, EIR Baseline.** Please refer to Response to Comment D-1 regarding methodology for calculating sewage volume changes as a basis for assessing impacts.

CC-45 **Patient Load Assumptions.** There is no conflict between the statements that the scope of services and clinical programs at the new facility are anticipated to remain essentially the same and that additional space would be provided for medical equipment and infectious disease control to carry out those services and programs. The EIR impact analysis is based on reasonable worst-case assumptions of future patient loads in the judgment of the Lead Agency. The commentator's disagreement is noted.

CC-46 **Hazardous Materials Impacts.** It is anticipated that changes to medical practices will continue to occur into the future, and the EIR therefore assumes as a reasonable worst-case analysis that future medical practice changes could involve increases in hazardous materials handling. But it is not feasible to predict what the specific changes would be, and more in-depth analysis is therefore not warranted. The EIR preparers agree with the commentator's point about outpatient increases, and the referenced sentence is deleted. The "no project" alternative analysis is provided in Chapter 15.0.

- CC-47 **Project Objective No. 4; Future Patient Demand.** Please refer to the EIR Section 3.1 discussion titled “Existing and Proposed Patient Volumes and Services” for estimated future demand of in-patients and out-patients.
- CC-48 **Project Characteristics.** The commentator states that Table 3B on page 3-8 does not include the nursing pavilion in the bed count. The table identifies characteristics of the current proposed project. The nursing pavilion is not part of the current proposed project. It is captured within the category “Potential Future Reconstruction Phase” at the bottom of Table 3B. The nursing pavilion represents a reasonable worst-case assumption for potential additional future build out under the proposed Specific Plan and is included in the EIR as an assumption for purposes of evaluating the impacts of full build out of the Specific Plan. No definitive plans for a future phase of reconstruction exist at this time. It would be inappropriate to include a potential nursing pavilion as part of the proposed project’s licensed bed count. Refer also to Responses to Comments CC-2 and CC-25.
- CC-49 **Undisclosed Bed Counts.** The commentator speculates that Cottage Hospital may have added beds that are not disclosed within its licensed bed count. There is no evidence to support this supposition.
- CC-50 **Specific Plan Bed Count/Development Standards.** The purpose of Table 3C is to identify proposed development standards, such as yard setbacks, building height limitations, and open space and landscaping requirements. Upon approval of the Specific Plan, these standards would apply to specific development projects within the Specific Plan boundaries, including the current project proposal and any future development proposal such as the nursing pavilion scenario. Should a future project with 100 beds proceed, it would increase the bed count compared to the current project. Such a potential increase in beds is not significant in and of itself; impacts associated with such a future phase are evaluated throughout the EIR.
- CC-51 **Specific Plan Sewage Volumes.** The comment represents the opinion of the commentator that water volumes used for sewage generation estimates downplay the potential impacts. Please refer to Response to Comment D-1 regarding the methodology used in the EIR for estimating sewage volumes.
- CC-52 **Hazards from Hospital Sewage.** The commentator reiterates his opinions regarding hazards associated with hospital sewage and notes his disagreement with Dr. Gerba. Please refer to Topical Response 5 on Microbial Hazards, and Responses to Comments CC-53 through CC-58, D-1, and D-3.
- CC-53 **Peer Review of Comments.** The comment represents the commentator’s opinion that the technical analysis of submitted comments was not adequate. Please refer to Topical Response 5 and Responses to Comments B-3 and CC-7.
- CC-54 **Resistant Pathogens.** The commentator asserts that hospitals are a foci for the development and transmission of multi-antimicrobial resistance and that these pathogens are discharged in hospital sewage. Please refer to Topical Response 5 and Responses to Comments D-2, CC-8, CC-36, CC-38, and CC-39, which address this issue.



- CC-55     **Health Effects of Hospital Sewage Hazards.** While the commentator acknowledges that there is no substantial evidence that current hospital waste disposal practices have caused diseases in the community, he attributes this reality to the fact that no one is directly studying the issue. For a thorough discussion of this issue, please refer to Responses to Comments D-2, CC-8, CC-15, CC-26, CC-36, CC-38, and CC-40.
- CC-56     **Hospital Wastewater Quality.** The commentator disagrees with the conclusion in the Draft EIR that the hospital wastewater is not substantially different than community wastewater with respect to the discharge of pathogens. The City has no information to support the conclusion that hospital wastewater is more infective than community wastewater. Please refer to Response to Comment D-2 for a complete discussion about this issue.
- CC-57     **Leaking Sewer Pipes and Exfiltration.** The comment asserts that leaking sewer lines and ruptured manhole seals can result in impacts from sewage hazards affecting the environment. Please refer to Topical Response 5 regarding hazards.
- CC-58     **City Sewage Treatment Plant.** The commentator disagrees with the conclusion that El Estero is adequately equipped to treat sewage that may contain multiresistant pathogens. The City notes the commentator's concerns but respectfully disagrees. Page 9-19 of the EIR contains a discussion about the adequacy of the local sewer plant treatment process to treat sewage that may contain, for example, multidrug resistant pathogens and chemical or biological waste prior to its discharge into the environment. Also, please refer to Responses to Comments D-2 and D-3 regarding community and hospital sewage and the qualifications of EIR consultants, respectively.
- CC-59     **EIR Impact Conclusions.** The commentator disagrees with the conclusion contained within the Sewage Hazard Impact discussion that there will be no significant impacts associated with sewage and the SBCH. The commentator disagrees with that conclusion for at least three specific reasons: (1) the Draft EIR characterizes sewage as a community problem, not the problem of a single institution; (2) the Draft EIR states that the City has no evidence for exfiltration; and (3) the Draft EIR concludes that El Estero has the capacity to treat sewage from SBCH.

With respect to sewage being a community problem and not just the problem of SBCH, please refer to Responses to Comments D-2 and CC-8.

In regard to the issue of inflow of rainwater into the sewer system causing sewer capacity to be exceeded and the exfiltration of wastes from the sewage system into the environment, please see pages 9-18 and 9-19 of the EIR. The City does acknowledge that sewage overflows do occur during the rainy season due to rainwater entering the system through drains or manhole covers or by seeping in through cracks and joints causing sewer capacity to be exceeded. However, the City is unaware of groundwater contamination caused by sewer line exfiltration. Additionally, the City has inspected sewer lines in the SBCH area within the last five years using a closed-circuit TV camera.

This inspection did not identify any areas needing repair. Further, the sewer collection system in the SBCH area is routinely cleaned twice a year.

Regarding the study by Chitnis and others, please refer to Responses to Comments D-2 and/or CC-8. For a discussion of the ability for El Estero to adequately process waste that comes from SBCH in a manner that protects human health and the environment, please refer to the discussion about the El Estero Waste Water Treatment Plant on page 9-19 of the EIR. El Estero uses secondary bacteriological treatment, anaerobic digestion of sludge, chlorine disinfection, and chlorine neutralization prior to discharge of effluent. The treatment facility is mandated to comply with the strictest pathogen standards in the State for secondary treatment and deep-water ocean discharge. Extensive water quality testing (over 4,000 tests annually) is conducted before, during, and after treatment to confirm that the treated discharge meets all limits and does not affect human health or the marine environment.

- CC-60     **Sewage Volumes.** The commentator raises questions regarding how sewage generation and water consumption for the proposed project was calculated. Refer to Response to Comment D-1.
- CC-61     **Off-Site Impacts.** The commentator raises concerns about the ability for pathogens to be carried through the sewer and into the environment and that hospitals are foci for development and disbursement of this resistance. Further, the commentator is concerned that this information is not included in the Draft EIR. The City has studied this issue and has consulted with an expert in the field, Charles Gerba, PhD, Professor of Microbiology at the University of Arizona. With Dr. Gerba's professional assistance, the City has concluded that SBCH is simply not more of a risk for the transport of pathogens other domestic contributors to the sewage system. This discussion can be found on page 9-18 of the Draft EIR and in Response to Comment D-2.

## **DD. COMMENTS FROM ROBERT KRATZKE AND GARRET VILLALBA**

**Unzueta, Irma**

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**From:** Kratzke, Robert (NFESC) [robert.kratzke@navy.mil]  
**Sent:** Wednesday, December 15, 2004 12:44 PM  
**To:** Unzueta, Irma  
**Subject:** Comments on Cottage Hospital Draft EIR

Dear Ms. Unzueta;

Please find enclosed our comments on the Draft Environmental Impact Report (EIR) for the Santa Barbara Cottage Hospital Seismic Compliance and Modernization Plan. We fully support this project.

The Draft EIR is lengthy, very comprehensive and detailed. As such, we have deliberately limited and focused our comments on those issues we feel are most critical to the our neighborhood including; construction concerns, parking issues, Oak Park and land use.

Thank you for the opportunity for us to comment on this important project. Please keep us updated on future plans and meetings.

Finally, can you please reply to this e-mail so that I may know that you recieved these comments today. Thanks.

Respectfully,

Mr. Robert Kratzke  
Mr. Garret Villalba  
2434 Fletcher Avenue  
Santa Barbara, CA 93015  
Phone: (805) 455-0176

12/15/2004

## Draft Environmental Impact Report, Santa Barbara Cottage Hospital Seismic Compliance and Modernization Plan

Reviewer:	Mr. Robert Kratzke & Mr. Garret Villalba
Address:	2434 Fletcher Ave., Santa Barbara, CA 93105
Date:	December 15, 2004

**Comment Type:**

- **S - Substantive** (comments on significant and substantial issues)
- **G – Overall Comment**
- **E – Editorial** (grammatical, etc.)

No.	Type	Page	Line No	Comment	
1.	S	1-7	N-8	Multiple dwellings within a one-block radius of Cottage Hospital are of the early 1900s era and are substantially more prone to cracks and damage due to vibration impacts. Recommend that the 500' distance be expanded to include all structures within a one-block radius of the project site. Also, we could not find in the Draft EIR how Cottage Hospital will compensate property owners for any damage cause by vibrations.	DD-1
2.	S	1-9	N-14	Excellent Mitigation Measure. However, is it possible for the City to enforce this measure? Currently, construction in the area has significantly disrupted available parking due to workers occupying numerous on-street parking spaces in the neighborhood. Is it possible for the city to fine violators, for example if workers do park on the street, and not get shuttled in, they may be subject to parking violations. Also, one recommendation to alleviate this concern is to temporarily (during construction) start a neighborhood parking permit program that is currently used in many other parts of Downtown Santa Barbara to eliminate overnight and long term parking problems in neighborhoods.	DD-2
3.	S	3-7	6 <sup>th</sup> Para	The Land Uses of Oak Park are significantly downplayed in this paragraph and throughout the Draft EIR. From late Spring through early Fall each year; the park hosts a multitude of ethnic and cultural festivals. In addition, the park has numerous picnic tables and BBQ facilities that are heavily used for large family gatherings and celebrations almost every weekend throughout the year. The Draft EIR fails to take into consideration how the new Cottage Hospital, and its related construction, may detrimentally affect Oak Park and its important leisure and recreationally aspect for the entire Santa Barbara community and tourists.	DD-3
4.	S	3-19	2 <sup>nd</sup> Para	Extending construction hours from 7am to 6pm weekdays, and 7-5 on Saturdays is unreasonable for the entire construction period. These extended hours would unduly and unnecessarily interrupt the residential neighborhood and Oak Park functions. The Draft EIR is negligent in examining other work hour alternatives and should be addressed more completely in the Final EIR. A detailed Work breakdown structure for the project to succinctly evaluate which construction phases are critical for extended hours and which phases are NOT could be an important evaluation in determining construction hours.	DD-4
5.	S	3-19	5 <sup>th</sup> Para	The Construction Management Plan is an excellent idea. In fact, we suggest requiring that a formal Communication Plan be developed that specifically identifies that type and phases of communication that will be used for the public. The Draft EIR does not go into specifics on how a Communications Plan would be formalized and implemented to mitigate residents concerns and fears.	DD-5
6.	S	Fig 4.3		The Adjacent Land Uses Map is incorrect or out-dated. For example, in the 2400	DD-6

## Draft Environmental Impact Report, Santa Barbara Cottage Hospital Seismic Compliance and Modernization Plan

No.	Type	Page	Line No	Comment	
				block of Castillo Street a new medical building is under construction, and the figure shows that this property is a residential bldg. We realize that this figure is taken from SB city public records, but the document should not rely on third party records and figures to be accurate and up-to-date. A Quality Assurance check should be made to actual conditions on all information provided from other sources. Corrections should be made in the Final EIR	DD-6
7.	S	Fig 13.2A		From our best evaluation, this figure depicts incorrect numbers of On-Street parking spaces based on the City of Santa Barbara's guidance on allowable distances for cars, alley set-back distance allowances, red-curb space, etc. For example, the figure indicates that there are 12 parking spaces on the South side of Quinto between Fletcher and Castillo. However, when you apply the red-curb and alley set back limits to this particular stretch of street, there are clearly LESS THAN 12 spaces available. The Final EIR should incorporate corrected parking spaces into the evaluation.	DD-7
8.	G			The Draft EIR is very complete and thorough. However, it is lengthy, cumbersome and too detailed for the general public to comprehend. Obviously, the general public relies on the Santa Barbara City Staff to provide a thorough and complete review of the document and appendices.	DD-8

## DD. RESPONSES TO COMMENTS FROM ROBERT KRATZKE AND GARRET VILLALBA

- DD-1      **Vibration.** Mitigation Measure N-8 requiring the crack survey and video reconnaissance has been revised to require compensation for damage of structures sustained as a result of the construction. With respect to extending the radius to beyond the 500-foot radius, the EIR analysis found that structural damage would not result to buildings beyond a distance of 150 feet. Refer to Response to Comment G-79 regarding the radius in Mitigation Measure N-8 being changed to 150 feet. Comments related to extending the radius to include structures within a one-block radius will be forwarded to the decision-makers for review as part of the Final EIR.
- DD-2      **Construction Worker Parking and Shuttle.** Refer to Response to Comment X-3 regarding the provision of a shuttle service to transport construction workers to the project site. The Project Environmental Coordinator (PEC) for the project will be responsible for ensuring compliance with the measure. A neighborhood parking permit program requires initiation in accordance with established City procedures.
- DD-3      **Construction Impacts.** The potential environmental impacts on Oak Park and the surrounding land uses from the proposed project construction phases and long-term operations were evaluated in the EIR. Circulation impacts (access to the Park and surrounding areas) and traffic on area streets during construction of the proposed project, as well as noise levels and pollutant emissions, were assessed. As described in Chapter 4.0, Land Use, the proposed project may affect access to the park during the project construction period. However, the proposed project would not generate significant additional demand for park use under project operational conditions. As described in Chapter 13.0, Transportation, Mitigation Measure TRF-8, a Construction Management Plan (CMP) will be prepared to minimize construction trips through residential areas. Detour routes and street closures will be documented in the CMP. In addition to potential impacts from project construction traffic, the EIR evaluated the potential impacts to the park from construction noise activities and air quality (see Chapters 5.0 and 11.0 in the DEIR). As described in Chapter 5.0, Air Quality, Project Feature 5-4 will ensure that haul routes for all construction-related trucks will be as short as possible while avoiding sensitive areas (including Oak Park). Chapter 11.0, Noise, concluded that noise and vibration impacts on Oak Park would not significantly impact the park or park users during all phases of construction. Furthermore, Mitigation Measure N-10 specifies that the best available noise control technology shall be used for construction equipment and that noisy operations and equipment shall be located away from noise-specific land uses (including Oak Park).
- DD-4      **Construction Hours and Noise.** Please refer to Topical Response 3 and Responses to Comments E-1 and G-80 regarding construction hours.



- DD-5      **Construction Management Plan.** The details of what the Comprehensive Construction Management Program will entail and how it will be implemented will be refined prior to Planning Commission review and approval. This requirement will be imposed as a condition of approval and therefore will need to be better defined at the time of approval.
- DD-6      **EIR Data.** Comment noted. The data used for the Draft EIR reflects the best available information at the time the Draft EIR was prepared.
- DD-7      **On-Street Parking Spaces, Figure 13.2A.** The number of on-street parking spaces was determined by doing actual field observations for each block depicted on the graphic. In most cases, the block was fully utilized; however, when there were open spaces, the traffic consultant estimated how many cars the space could serve, if any. Staff supports the calculation and recognizes that the number may not be an exact representation; however, staff believes that using the field observation approach provides a more realistic number given that many times, City standards, relative to all setback distances, red curb spaces, etc., are not met.
- DD-8      **EIR Completeness.** The comment represents the opinion of the commentator regarding the completeness of the Draft EIR and will be forwarded to the decision-makers for review as part of the Final EIR.

## COMMENTS FROM PUBLIC HEARING

The following comments were received at the Draft EIR public hearing held on December 2, 2004. Given that many comments centered on similar issues, a Topical Response section was provided in this document to address these broad areas of concern: Traffic Trip Generation; Helicopter Noise; Construction Noise/Hours Limitations; “Green” Building Design; Microbial Hazards; and Revised Parking Demand Analysis.

Further, several of the commentators at the public hearing submitted written comments. Where a letter has been received, it is referenced below with the alphabetical identification of the commentator’s letter. Where the commentator has raised issues relative to the environmental assessment in the EIR, substantial discussion of the issue is provided in a response (please refer to the letter indicated).

## **PUBLIC HEARING COMMENTS**

### **EE. Ron Werft, Santa Barbara Cottage Hospital (See Topical Issues, Letter G, and Responses)**

- Generally in agreement with contents and conclusions of the EIR.
- Acknowledged that through meetings with Staff and the Planning Commission there is an overall improvement to the design of the project.
- Estimated the storm drain (10-foot by 10-foot box culvert) cost to be \$6 million.
- Outlined three areas of concern:
  1. Restriction in construction hours identified in the DEIR (reduced hours of 8:00 a.m. to 5:00 p.m., no Saturdays) prevents the completion of the hospital by State-mandated date of 2013.
  2. Traffic analysis overstates incremental trips.
  3. Mandating LEED certification. LEED certification should be recommended, not required.
- Informed the Planning Commission of SBCH's desire to begin construction by April 2005.
- Stated that traffic generation is overstated in the DEIR. SBCH would not attract more patients due to the reconstructed hospital project. Reconstruction would not cause an increase in traffic trips. Inpatient volume has not changed much even after St. Francis closed and is not projected to change.
- LEED components and principles not appropriate for SBCH, as standards for hospitals have not been developed. OSHPD requirements often conflict with LEED standards, thereby making it difficult to achieve certification. SBCH has incorporated as many principles of LEED as possible and have contracted with a LEED consultant to help it through the process.
- Expressed concern regarding the timing that LEED certification would require. It is not possible until occupancy is achieved.

### **Steve Meinsberg, McCarthy Construction (See Letter G and Responses)**

- Explained that hospital construction requires qualified tradesman.
- The construction hours identified in the DEIR would pose problems in hiring qualified tradesmen. Due to the busy southern California construction market, there are not enough qualified tradesmen to go around, and therefore tradesmen can be selective. It is not possible to hire tradesmen without extended hours and Saturdays.
- Certain activities, such as welding and ironwork require extended work hours. Welders and iron workers have to do pre- and post-heating on joints, and therefore require an extended work week.
- Utility shutdowns and various other activities need to be conducted during off hours.
- An extended workday is positive in that worker transport will avoid peak hours.

**FF. Hilary Hauser, Executive Director of Heal the Ocean (See Topical Issues, Letters C, CC, and Responses)**

- Clarified Heal the Ocean's position on cost/feasibility study as part of EIR process for treating hospital sewage.
- Heal the Ocean is collaborating with City staff regarding leaky sewer pipe issue.
- Research information is forthcoming regarding potential contaminants being released into the ocean environment.
- Heal the Ocean does not feel that the EIR is the proper venue for cost/feasibility study.

**GG. Kerry Marcu, Resident of Oak Park Neighborhood (See Topical Issues, Letters Y, AA, and Responses)**

- Expressed concern regarding helicopter accidents (snagging power lines).
- Believes the DEIR downplays visual changes, particularly the impacts from the new buildings and parking structures.
- Would like requirement to place all utility lines in neighborhood underground.
- Questions why a shuttle was not recommended in the EIR.
- Suggests that building employee residences on and near parking structure site would be appropriate.
- EIR left out analysis of owls and kestrels – where will birds go while trees mature?
- Concern that significant number of trees being removed and replacements will take at least 20–60 years to mature.
- Mitigation to recommend the crack survey does not go far enough – SBCH should pay for repairs.

**HH. Joddi Leipner (See Topical Issues, Letter AA, and Responses)**

- Mitigation must be provided; EIR provides little in terms of certain mitigation (various items).
- Inadequate Project Description – future use of Knapp Building and future use of remaining 6-story portion of hospital are not adequately addressed.
- Inadequate project baseline – 456 licensed beds; SBCH has never achieved this level of occupancy.
- DEIR underestimates impacts.
- Noise: helicopter flights should not be averaged over 24 hours.
- Should install double-pane windows on homes affected by noise levels at night.
- Construction should not occur on weekends and holidays; or if so, only under extraordinary circumstances.

- Land use compatibility impacts not adequately evaluated.
- Rezone from medical commercial to hospital zone adds land uses not currently allowed and reduces setbacks.
- Visual impacts: the project will cause a significant change to Oak Park character.
- Place underground more of the existing overhead transmission lines throughout the neighborhood.
- Cumulative Impact analysis does not address cumulative impacts sufficiently; cumulative impacts are understated throughout the DEIR.
- Visual change to neighborhood due to past changes not addressed in the DEIR.
- Environmental Justice: effects on working class neighborhood (Oak Park area) should be addressed.
- SBCH is not pursuing aggressive TDMs, housing opportunities, etc.
- The project is an impediment to pedestrians and discourages use of bicycle lanes.
- Suggested additional mitigation measures to address the following areas of concern:
  1. Construction time.
  2. Double-pane windows.
  3. Close off top level of parking structure at night.
  4. Include setback standards that are proposed in the SP-8.
  5. Helicopter operations.
  6. 24-hour contact persons to report helicopter flight path.

## **II. Gerald Kopeche (See Topical Issues, Letter G, and Responses)**

- Project review should be expedited.
- The hospital is in a very convenient location.
- 3 issues on EIR:
  1. SBCH should be permitted to construct with the extra hours.
  2. In favor of limiting use of cars in the area; are there ways to direct trips in and out so that emergency vehicles can get in; priority should be for emergency vehicles.
  3. Green building implementation: the University has LEEDS component but it is important to have the hospital and funds to build it.

## **JJ. David Vernon Thomas (See Letters L and O and Responses)**

- Comments from the neighborhood should be weighed proportionately to the effects they will have on the hospital goals, as it is one of finest hospitals for an area this size.

**KK. Joaquin Fisher (See Topical Issues)**

- Lives at Pueblo/State Street, as he wanted to live near a hospital, and supports it wholeheartedly.
- Impacts are the price to bear.
- He doesn't see the project causing additional traffic that would not be there anyway.
- LEEDS certification should not have to be required.

**LL. Kira Schmidt (See Topical Issues, Letter D, and Responses)**

- SB Channel Keeper representative.
- Local water quality impacts from hospital project need to be evaluated.
- Sewage hazard impacts: uses number of licensed beds, but this should not be basis; number of occupied beds and outpatients should be the basis, so the conclusion of a decrease in quantity is flawed.
- Quality of effluent – waste from a hospital can be significant.
- City's sewer lines are cracked, leaking, causing exfiltration, and several pipes are in need of repair.
- Four months ago there was a sewage spill at SBCH.
- JPR admits it did not conduct an evaluation; more analysis must be done.

**MM. Ed McGowan (See Topical Issues, Letter CC, and Responses)**

- DEIR failed on several counts.
- EIR, RFP, and Initial Study sent to consultants on October 17, 2003.
- Premature solicitation of consultants without hearing public comments.
- It is necessary to raise the impact level of sewage issues to significant beyond the Initial Study's conclusion.
- EIR analysis – not completed by proper experts; need a study by experts.
- He provided maps with sewer lines needing repair.
- The City has been attempting to cover this problem (problematic sewage lines).
- Off-site impacts due to a facility system being used by SBCH.

**NN. Naomi Kovacs** (Citizens Planning Association) (See Topical Responses, Letter B, and Responses)

- Agrees with McGowan.
- Best available technology and design should be used for project.
- Several EIR sections are deficient.
- EIR must be recirculated.
- Pathogens and sewer treatment evaluates minimum legal standards; and we need the best available technology.
- SBCH: largest toxics generator on the southern coast.
- Introduction of pathogenic threats into community.
- JPR EIR consultants admits it is not competent and recommends expert review issues; review by expert panel with full disclosure of qualifications; baseline studies corrupted, therefore conclusions are not valid.
- Also, she is a neighbor, and the City should consider impacts from construction activities.

**OO. Robert Kratsky** (Environmental Engineer, lives at Quinto/Fletcher) (See Several Letters and Responses on similar issues)

- Construction activities: even small-scale construction causes disturbance; there needs to be more explanation as to the work break down; and not having to work all weekends.
- Need to look at overall effects of the project beyond the neighborhood (cumulative).
- Visual clutter: could look at undergrounding utilities.
- Needs to have more open discussion and work with community during construction.

**PP. Edward Wallace, M.D.** (See Topical Issues, Letter G, and Responses)

- Practices medicine seven blocks from SBCH.
- Be prudent on expending costs – quality is primary.
- SBCH is not asking for public funds: Lompoc Hospital is asking for a bond.
- Opposes features of EIR that would delay completion:
  1. Construction hours.
  2. LEEDS.
  3. Traffic, parking, and air quality mitigation measures.

**QQ. J. Jergenson (Comment noted; see prior responses)**

- Supports project.
- Wonders why they want to stay and improve on site with all the flack they are getting; Goleta might be better.
- Important to cooperate with the project.
- Concerned about working (construction) hours.
- Traffic: alleviated if project was located in Goleta.

**RR. Eileen Daily (See Topical Responses)**

- Neighbor in Oak Park area.
- Circulation: difficult to get around.
- Hours of construction: problematic.
- Helicopter: surrounding neighbors should get some consideration/protection for noise and safety.

**SS. Elaine Lopez (read by Joddi Leipner) (See Letter AA and Responses)**

- Neighbor.
- Limit noise and provide residents with double-pane windows.
- Tree loss: on-site replanting areas should not be at Scofield.
- Should plant oaks, not ornamental trees.

**TT. Jack Meyer (See Letter B and Responses)**

- Tallant Road resident.
- Lack of mitigation for construction traffic.
- Diversion of trips through neighborhood.
- Human element not in EIR, just technical analysis.
- Concerned that the review will be oversimplified because the project is needed.
- Page 13–21: 12 unacceptable LOS intersections; doesn't think traffic is being addressed.

**UU. Peggy Welty (Comment Noted, see prior responses)**

- Traffic problems are there now and will increase with or without the project.
- Project gives opportunities to address current problems now.



## **PLANNING COMMISSION COMMENTS (See Topical Issues, Letters A–DD, and Responses)**

### **Commissioner Bendy White**

- Explain trip generation approach; interesting that SBCH and City staff are not in agreement; need to have trip generation issue resolved between City and SBCH.
- Sewage Issues – would like to hear more from technical staff & consultants.
- Complimented Irma and City staff on excellence of the work.
- Construction hours: what can we do to minimize impacts while still accomplishing goals?
- Hospital waste: Measure B voted in; need to go forward with the intent of that program to improve water quality.
- Aesthetic Impact: seems significant.
- Undergrounding utilities: City planning issue rather than environmental, but money being sought by other sources could be used in this area.
- Contact person for construction activities is very important.
- Double-pane window as mitigation: likes it; what is the cost?

### **Commissioner William Mahan**

- Wastewater issue is important.
- Measure B funds could be used.
- EIR needs to develop noise contours (spheres) on a map to see how noise will be spread out over wide area; may not be such a noise bomb in all areas.
- Construction working hours: additional time is an impact itself; overall impact may be less with longer hours; type of construction that will occur is important because certain types of activities are not as noisy as others; clarify in DEIR the different types of construction noise.
- Didn't understand LEED mitigation (PS-4); not a significant impact, so why is it required? Please explain.
- Traffic Mitigation: who's responsible for that?
- Size, bulk, scale: generally a good effect improvement to the neighborhood.
- Architecture is good.
- Tree Mitigation: Figure on page 2, Vol. II: is there an error?

### **Commissioner John Jostes**

- Good documents overall.
- Construction hours extension: EIR and applicant and neighbors think about what can be done to evaluate actual construction and give PC a menu of options.
- LEED certification: would like to see real effort to achieve as much as possible; where there are conflicts with OSHPD, can there be alternatives to address those issues.
- Traffic issue: fine line between Growth Inducement and Indirect Effects.
- Traffic induced over time with other projects (Sansum Clinic): surrounding uses will change in response to the hospital project.
- More traffic is eventual; deal with it now.
- Improve on mitigation matrix (17.0); a lot of blanks.
- Alternatives: Earl Warren site dealt with as infeasible, as unavailable.

### **Commissioner Charmaine Jacobs**

- Need to change baseline for some of the studies; traffic and sewage (actual average occupancy not licensed beds).
- Construction timeline: different construction times by area, Area C (Pueblo Lot) should have a shorter day for construction, and other areas longer days.
- Clarify new project: SP-8 overlap.

### **Commissioner Grant House**

- Concern: we need to better understand the situation emerging nationally or internationally; he expects a study should be commissioned for this project to determine whether on-site sewage treatment is necessary or whether an off-site treatment plant is adequate.
- Design is great; work toward lush landscaping.
- Drainage issues: addressing them very well.
- Mitigations: would they be effective?
- Air Quality: related to traffic directly (as EIR says).
- Fixed sources.
- What measures can reduce trips? See PF 5-2 and PF 13-5.
- Difficult to come up with performance standards with some of these TDMs.
- Use pedestrian bridge.
- Housing at St. Francis with shuttle or housing nearby; identify these and take advantage of it.

- Las Positas/101: critical existing problem → can this be looked at with this project?
- Trees: replacement should be right on site.
- Get a relationship to SP-8; skin-tight SP area; should have been larger.
- Long-term planning acknowledgement.
- Mitigation should include Best Management Practices (BMPs).
- LEEDS: show PC what they've been able to do, best faith effort; City holds high standard, but then see what they can do.
- Very tall sound wall on another project; construction period really worked.
- Hours could be variable based on type of construction; need to control it/not cart blanche.
- Sewage issue: further study; connection into existing infrastructure.
- Make a provision in case it is necessary to provide on-site treatment in future; single point of exit for effluent.
- New information becoming available re: pathogen-resistant bacteria.
- Can treatment facility be retrofitted?
- Calle Real: can more be done to fix congestion?

#### **Commissioner Jonathan Maguire**

- Neighborhood has to deal with impacts.
- How do we mitigate appropriately?
- PC is limited in what it can require, since the City did not partner with SBCH on this project, regardless of whether impacts on neighbors are significant under CEQA.
- Traffic: focused his review there; he's comfortable with methodology.
- What range of projections are other hospital around the country using?
- Mitigations proposed for Mission/Bath → what's being proposed? Confusing graphic in Traffic Study.
- Mitigations prescribed not adequate at 101/Las Positas.
- Make Calle Real two-way and serve SBCH.
- PSR small step forward; not really effective.
- Lack of consideration for lack of parking around perimeter of structure.
- Likes Cash-Out Program Mitigation TRF-3, but could be worded better; his idea to improve it → set cash-out money to meet a parking utilization factor that City would set.
- Patient volume is appropriate; not number of beds.